MEDICAL EXAMINER.

DEVOTED TO MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

No. 49.] PHILADELPHIA, SATURDAY, DECEMBER 7, 1839. [Vol. II.

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

December 1st, 1839.

The President, Dr. Gerhard, in the Chair.

Dr. Stillé presented a specimen of *Diseased Heart and Liver*, and read the following account of the case:—

A case of Ascites, with Disease of the Heart and Liver.

Margaret E., æt. 35, a native of Germany, and a domestic, entered the Pennsylvania Hospital on the 7th of September last. On the 19th of the same month, the following note was made of her history and condition, by Dr. Stewardson, then attending physician of the hospital. She was married at the age of fifteen; had had six children; all her labours were difficult, the first only instrumental. Two days after the birth of her third child she had a very copious flooding,—and about two years afterwards, at a time when she was not pregnant, experienced a hæmorrhage from the womb in consequence of falling down stairs, by which her right side was injured, but no bones fractured. The flow of blood lasted for three days; at the end of three weeks she was able to sit up, and in three months had entirely regained her health. She had two labours afterwards, both without notable accident, and continued perfectly well until about the month of March last, when, a week before lying in, she was immersed in cold water during a freshet of the Schuylkill, and had a chill, with dyspnœa, but no pain. Her labour was tedious, but terminated without accident: about three weeks afterwards she had an abscess of the mamma, and in the following week a violent cough, with sharp pain at the xiphoid cartilage, extending towards the right side, and over the region of the liver. In about a fortnight she began to observe a tumefaction of the epigastrium. Her physician told her it arose from the liver. For about a month the swelling was confined to the region mentioned, and was then accompanied by a general enlargement of the abdomen, and œdema of the lower extremities.

At the date of this note her intelligence was perfect; her tongue moist, slightly coated with a whitish fur; her pulse quick and feeble. The breathing was short and difficult; there was a slight dry cough, and some fluttering about the heart, noticed about seven months before. Percussion anteriorly was resonant to within one and a half inches of the right false ribs, while on the left side it was so only to within two inches and a half of the nipple. The sounds of the heart were loudest at a point midway between the sternum and the left nipple, and half an inch below the latter. A *bruit de soufflet* existed in the first sound. The abdomen was excessively distended; its skin tense; fluctuation very distinct; soreness on pressure very great for three inches around the umbilicus; pressing the fingers suddenly downwards below the right false ribs, they encountered a firm, resisting body, extending three inches to the left of the xiphoid cartilage, and to the same distance below it, and having a regular and defined edge.

On the 29th September the patient was seized with a severe convulsion, accompanied by twitchings, delirium, and a slow, sighing respiration. Some scarified cups were applied to the back of the neck, and sinapisms to the lower extremities. The relief afforded was immediate. The general treatment of this case consisted in purgation by cream of tartar and jalap, and the use of an infusion of juniper berries. The distention of the abdomen, however, increased. On the 19th October the patient was tapped, and about four gallons of a light yellowish fluid drawn off. Her condition was for a short time rendered more comfortable,—but the dropsy returned, unaccompanied by œdema of the lower extremities, and symptoms of suffocation began to show themselves.

From the beginning of November the patient was under my care. About the 10th of the month she was unable to breathe except in a half-sitting posture; she complained of a feeling of great oppression in the region of the heart, and of tenderness over the whole abdomen; her pulse was small, quick, and corded, and her hands and feet cool. At this time a strong blowing sound accompanied the impulse of the heart, taking the place of the first sound; the second sound was clear and flapping. In a day or two the lips and cheeks acquired a violet colour; the eyes stood staring out; the pulse became slow and jerking, and the inspiration gasping. These symptoms varied in intensity from time to time; and when at their worst, the first sound of the heart was dull, but still marked by a *soufflet*, and the second sound either faint or inaudible. These symptoms daily assumed a new degree of severity, and on the 18th November the patient expired in a state of suffocation.

Autopsy fourteen hours after death.—Body of a pale yellow colour; emaciation and rigidity moderate; no œdema of feet; trunk two feet and nine inches in circumference over abdomen, which contained several gallons of yellowish serum; stomach and large intestine much distended by gas; small intestine very much contracted; the peritoneum throughout of a rosy hue, and the veins of the stomach and mesentery very prominent. There was no recent false membrane, but several old adhesions of the colon to the under

surface of the liver; the spleen was about four inches long, firm, and its capsule wrinkled; kidnies both of ordinary size and consistence, but of a darker colour than usual; bladder small and contracted; uterus natural. The liver was but little, if at all, larger than natural, but very heavy, and firm. An incision into it was followed by the escape of a considerable quantity of dark blood, particularly when any of the veins were divided. The surface of it was mottled by an infinite number of red and brownish points, visible through the peritoneum. By firm pressure, the finger could be forced into its substance, which was, however, more coherent than natural. A section looked granular in certain lights, but scarcely offered any irregularity to the touch. It presented two distinct colours; the one of venous blood existing in points either isolated or grouped together, or else in lines so disposed as to give the portions thus coloured an arborized appearance. This colour disappeared entirely on maceration. The other was of a pale brown tint, persisting unchanged after repeated maceration and washing in water; this was the colour of the mass of the organ, which was evidently made up of rounded grains, whose sections frequently displayed a central point having three lines radiating from it to the periphery of the acinus. The gall bladder was very much distended with bile of a tarry consistence and colour, in mass, but tinging the skin of a bright orange hue. The pleural cavities contained each about one quart of fluid. The lungs were not attached to the ribs at any point; but on the surface of the left there were several patches of yellowish fibrine, about half a line thick, and slightly adherent. The tissue of the lungs was filled with air, and firmer than natural. The pericardium contained about an ounce of serum; its surface was smooth, and without injection.

The heart was distended by a large quantity of very black, coagulated blood, as were also the ascending and descending cavæ, and the hepatic veins. All the cavities of the heart contained masses of yellow, firm, adherent fibrine, which were largest in the ventricles, and, from them, prolonged into the arterial and auricular orifices. The texture of the heart was firm; remarkably so in the walls of the left ventricle. The extreme length of the heart was five and a half inches; its greatest circumference twelve inches. The right ventricle measured four inches from its point to the origin of the valves of the pulmonary artery; its walls measured from one to three lines in thickness, exclusive of the columnæ carneæ, which were remarkably numerous, thick, and firm. This ventricle was much dilated, as well as the corresponding auricle, which might easily have held a large hen's egg. The tricuspid valve was remarkably well developed; and the *chordæ tendineæ* were not only attached to its free edge, but ran in divergent lines across its expansion, to connect themselves with the muscular margin of the *osteum venosum*.

The walls of the left ventricle were from three to nine lines in thickness, inclusive of the *columnæ carneæ*, which were few in number. Its cavity was three inches and a quarter long, and the side of it towards the right ventricle two inches and a quarter wide. The circumference of the auriculo-ventricular orifice was forty-two lines. Of the two folds of the mitral valve only one could be fairly said to exist, of a trapezoid form, and measuring nine lines from its free edge to its base, and one-third of its length from the latter fourteen lines in width, representing a surface of one hundred and twenty-six square lines; while the plane of the *osteum venosum* being equal to nearly the square of one-third of its circumference, may be valued at two hundred and six square lines. The lesser fold of the mitral valve measured about twelve lines long, by three broad, and its surface thirty-six square lines. So that the aggregate surface of both folds of this valve may be reckoned at one hundred and twenty-six square lines, while the space they should have closed contained two hundred and six square lines. Consequently, the deficiency of valvular apparatus may be valued at forty-four square lines.

The left auricle was dilated, and its appendix, shaped like the finger of a glove, was one inch long. The aorta and pulmonary artery were of their natural size, and their valves perfectly complete and flexible.

The lining membrane of the left cavities of the heart was of a straw-colour, and thicker than natural, but offered no irregularities of any kind. On the mitral valve the same colour and increased thickness were observable towards its free edge, which was of a bright red hue in the breadth of one line all along it margin.

Remarks.—The very insufficient details of the symptoms presented during life, in this case, render an intelligible recapitulation difficult. The dates of the origin of the several symptoms which clearly belonged to the lesions, found after death, are almost entirely wanting. The affection of the heart was of a nature which must, in all probability, have given rise to symptoms of a decided character long before the month of March last, from which our history dates the commencement of the disease which ended in death. The affection of the liver is referred to a period, a month or more, after the patient's confinement, and her exposure to cold and wet; so that we are left in the dark relative to the immediate cause of the liver's disease.

It is, indeed, possible that the effects of the cold water, which she describes as being a chill and dyspnœa, without pain, may have been symptomatic of an inflammation of the right lung, subsequently propagated to the liver; but how are we to account for the absence of all symptoms indicative of such inflammation during a period of five weeks, unless by admitting the rather untenable supposition thatthe pains of labour, and of a mammary abscess, were sufficient to mask the symptoms of a pneumonia or a hepatitis? The coincidence of disease of the liver and of the alteration described in this paper, with inflammation and organic disease of the heart, has now been shown in three cases presented to the Soci-

ety; in all of these cases there was dropsy arising, apparently soon after the first indications of change in the liver, but in all of them there was also disease of the heart, of a date certainly not posterior to that of the liver, and, (if one may estimate the duration of disease by the extent of its lesion,) in the present case probably anterior to the hepatic affection. It remains, then, for new observations to show how far the alterations of the liver and of the heart depended on one another, and whether the dropsical effusion should be referred to either separately, or to both combined. The nature of the lesion of the liver does not appear to be very doubtful; the rounded bodies with a central point could only be the *acini* of this organ, and the surrounding substance, engorged with blood, its cellular parenchyma; so that we may consider the disease a hypertrophy of the glandular structure of the liver, with an anemic condition of the same part. It is probable that the dark and fugitive redness of the cellular tissue of the organ, depended upon the same cause which produced a similar injection of the kidnies, and all the abdominal veins; namely, the long agony, and the congestion of the heart.

It is stated that during life the liver was felt several inches below the right false ribs, thus giving an idea of its great size, while, after death it was found not to exceed the ordinary dimensions. The liver was specifically heavier than natural, and the effusion so elevated the false ribs, that it lost its natural support in a great measure, and fell forwards and downwards. The attempt which has been made to express in numbers the degree of insufficiency of the mitral valve, may perhaps be considered superfluous, on account of the elasticity or softness of the parts concerned. A very unpractised eye might have judged of the proportion between the mitral valve and the orifice it should have closed; but the regularity of the form of the valve was such as to warrant a belief that the proportion alluded to might be expressed in very nearly accurate terms. The result of the calculation has at least shown that the eye, in making its estimate, did not err upon the wrong side.

BIBLIOGRAPHICAL NOTICE.

Anatomical, Pathological, and Therapeutical Researches on the Yellow Fever of Gibraltar, of 1828. By P. Ch. A. Louis, D. M. P., &c. &c., *from Observations taken by himself and* M. Trousseau, *as Members of the French Commission at Gibraltar. Translated from the Manuscript, by* G. C. Shattuck, Jr., M. D. Boston: 1839.

This is the title of the last work of the celebrated Louis, and has first seen the light, in a country and in a language unfamiliar to its author. This event, singular in itself, is the result of circumstances highly honourable to those of our medical countrymen who have sought to perfect themselves in professional knowledge in Paris, and affords the strongest evidence of the paternal interest which M. Louis has taken in their pursuits, and of the personal esteem with which he has honoured some of the more zealous amongst them. Of the foreign medical students in Paris, the Americans have almost always been the assiduous followers of M. Louis; and there have usually been some one or more of them, who, by their superior industry, acquirements, and zeal, have not only attracted his attention, and secured his good offices, but also enjoyed the high privilege of his personal intimacy. Of this number was the translator of the present work. He had an opportunity, enjoyed by few others, of examining the original manuscript, and was so well convinced that its publication would confer an important benefit upon the scientific world, and especially upon those of our medical brethren in the South who are called upon every year to study and to treat cases of yellow fever, that he solicited M. Louis to make it public. Peculiar circumstances then operated, as they had done for nine years before, to prevent the satisfaction of this desire; but M. Louis at length consented to allow our countryman to translate and publish the work in the United States.

After the almost innumerable volumes written upon the history of yellow fever, in general, and concerning particular epidemics, it might, at first sight, appear superfluous to add a new treatise to the catalogue. But such an objection would have been equally plausible in regard to pulmonary affections and continued fevers, and would have continued so, had not a mode of observation, new in extent if not in principle, thrown a flood of light upon these two classes of diseases, and dissipated much of the obscurity in which they were enveloped. The same system of examination so successfully pursued by M. Louis in the study of phthisis and typhoid fever, has been applied to the epidemic of Gibraltar of 1828, and, we think, with hardly inferior results. As will be seen in the sequel, he has established, beyond the possibility of doubt, the anatomical lesion of the disease as it existed when observed by him, and has reduced to a certainty other points which the observations of all other writers had left in doubt. He has done this, not by any exertion of superior genius, not by any ingenious or analogical reasoning, but by patient study, unwearied industry, and, above all, by bringing to the investigation an unbiassed mind, a clear judgment, and a pure love of truth. A work con-

ceived and executed in such a spirit cannot fail to have admirers wherever strict philosophical research is valued, and ought to be gratefully welcomed in a country where the dogmas of obsolete schools, and the mere opinions of illustrious men have lost the *prestige* which they still exercise in the old world.

In the year 1828 M. Louis was one of several physicians commissioned by the French government to ascertain the origin and the mode of propagation of the yellow fever then raging at Gibraltar. Besides fulfilling the immediate object of his appointment, he applied himself to a minute study of the disease, its pathological anatomy, its symptoms, and its treatment. He examined with great care the bodies of twenty-five persons who fell victims to the fever, besides noting the symptoms during life in these and in many other cases in which recovery took place. All the details concerning the former class of patients are given in the work under consideration, and several examples illustrative of the latter portion are subjoined.

He commences by narrating, in full, the history of four fatal cases, taken at random, in order to familiarize the reader with the general portraiture of the disease; he then gives an accurate account of the appearances presented in each of the organs after death, devoting a separate chapter to each particular organ, and concluding this part of the subject by an abstract of the anatomical lesions, and of the proportion of the twenty-five cases examined, in which each was found. We proceed to give some of the more important portions of this abstract:

"The mucous membrane of the trachea was red, and a little softened in one case.

We found black spots, and generally many of them, through the thickness of the lungs, in nine subjects. They were of different dimensions, and the tissue surrounding them increased in density in most of the cases. This was sometimes entirely deprived of air, in consequence of the effusion of a greater or less quantity of blood more or less combined with air. In six cases we found in the lungs tumours of a blackish red colour, of an irregular form, containing no air, not granulated, more or less firm, without evident organization.

The œsophagus was completely deprived of epidermis through its whole length in a third part of the cases, and partially so in a greater number.

The stomach was larger than natural in seven subjects. It contained a clear or dark red coloured liquid, a blackish or perfectly black fluid, in different quantities, in three quarters of the cases. Its mucous membrane was red through a greater or less extent in six cases; rose coloured or orange in eight cases; grayish, yellowish, or whitish in the others. It was thickened through a greater or less extent of surface in half the cases; softened and yellow to an extreme degree in the same number; at the same time thickened, softened and red in a third part of the cases; mamelonated in two thirds; ulcerated in two cases. It was natural in five cases.

The mucous membrane of the duodenum was red in a little more than half the cases, softened in the same number, and thickened in one case.

The small intestine contained a greater or less quantity of reddish, brownish, blackish, or perfectly black matter, in two-thirds of the cases. Its mucous membrane was slightly injected, or red in spaces, in a little less than half the cases. Its consistence was more or less diminished through its whole length, or through a part of its extent only, in rather a greater number of cases. It was partially thickened in one case, in no case was it ulcerated, and Peyer's glands were always natural.

The large intestine was of a greater size than usual in two cases. In fifteen cases it contained a matter of wine lees colour, or blackish, or brownish, or chocolate coloured, or entirely black. Its mucous membrane was of a pale or bright red colour in five cases, grayish, yellowish, or whitish in the others. Its consistence was more or less diminished in three-quarters of the subjects. Its thickness was increased in three cases, and twice we found it slightly ulcerated.

The liver was of a greater size than natural in two cases; a little firmer than usual in three cases, a little less firm in three others. Its cohesion was increased in six cases, diminished in seven. *Its colour was altered in every case*, being sometimes of the colour of fresh butter, sometimes of a straw colour, sometimes of the colour of coffee and milk, sometimes a yellowish gum colour, or, finally, sometimes an orange or pistachio colour. This discolouration was not the same through the whole extent of the liver, being more marked in the left than in the right lobe; it was also more uniform. In cases where the colour was uniform in the left lobe, there was in the right lobe a mixture of gum yellow, orange or red points, larger or smaller, or else we found in the right lobe a rose tint, which did not exist in the left lobe. With the discoloration of the liver, we found a more or less marked paleness, and a diminished quantity of blood, so that wherever this appearance of the liver was well marked, the sections of it were dry, and of an arid appearance in the left lobe. This appearance reminded us at first of the greasy transformation of the liver, a transformation always accompanied by a softening, more or less marked. In the cases now under consideration, the cohesion of the liver was not at all diminished, even where this organ was of a clear coffee and milk colour, or of a straw yellow, or of the colour of sole leather."

From these quotations it is evident that the essential anatomical character of the yellow fever

of Gibraltar, in 1828, was the alteration of the colour of the liver, while the inflammation of the gastric mucous membrane must be considered as common to this disease and many others. In none of the lesions discovered after death, does M. Louis find the means of explaining either the symptoms observed during life, or the cause of death. None of the organs, the brain, the lungs, or the heart, the integrity of whose functions is usually considered necessary to life, were found disordered in many of the cases, and, even when altered, were only so in a very moderate degree. This absence of lesions sufficient to explain the cause of death, says M. Louis, must be admitted as "one of the characteristics of the yellow fever, at least of that which prevailed epidemically at Gibraltar in 1828, and if observation shows that there is in disease something beyond what we see, that its cause has sometimes a great deal to do with the death of those who are attacked by it, this double proposition is more evident here, where we must admit that the cause of the disease often kills by itself, or independently of any appreciable alterations of the organs, and even up to a certain point, derangement of the functions. We must remember that nearly the same thing happens in certain cases of poisoning."

The above sentence which expresses an idea frequently repeated throughout the work, fully exculpates M. Louis from the charge which has been made against him of attaching an undue importance to the connexion between the symptoms and termination of a disease, and the lesions which characterize it; in other words, of holding morbid anatomy to be rather the foundation of the history and treatment of diseases, than their exponent. It is only by long and discriminating study that one can become capable of deciding what share of influence an organic lesion has had in producing death; hence we should adopt a treatment founded upon such a study with becoming caution, for, as M. Louis observes, while "an intimate knowledge of the lesions observed in yellow fever is indispensable to the practitioner, he must also remember, that in this disease, as in others, there is something besides the lesions, and that he must profit by all that experience or chance may teach him of the best mode of treatment."

The author next proceeds to a study of the symptoms of yellow fever, as occurring in the epidemic in question, and devotes to the consideration of each one a separate chapter, besides describing the varieties of it met with in fatal, severe, and mild cases respectively. The limits prescribed to this notice forbid us from entering into a minute detail on this portion of the subject, we shall therefore content ourselves with borrowing the concise description of the symptoms given in the chapter on diagnosis. And, first, of the severe cases:

"In the most common cases of this kind, the patients experienced, at the commencement, headach; a pricking sensation in the eyes, which became almost immediately red and suffused; pains in the limbs, and more or less marked febrile symptoms. These symptoms continued. To them were joined pains in the epigastrium; nausea; spontaneous vomitings, some twelve or fifteen hours afterwards, rarely earlier, and sometimes even later. They were accompanied by an anxiety very variable in degree, so that some of the patients were constantly restless, and could not remain quiet in any posture, at the same time their intellectual faculties not being deranged. On the third or fourth days of the disease the eyes became yellow, the skin was of a similar colour, the injection of the conjunctiva diminished, and the stools more blackish. If the disease terminated in recovery, the stools resumed their natural colour, the vomitings became less frequent, or ceased entirely, and with them the pains and uncomfortable feelings. In fatal cases the vomitings continued, they became more or less blackish, or completely black, the dejections were of the same colour, the yellowness increased, the heat forsook the limbs, and from twenty to thirty-six hours after the supervention of this state of things, sometimes sooner, sometimes later, that is to say, four, or five, or six days after the commencement of the disease, the patient died."

The mild cases were remarkable not only for the benignity, but for the smaller number of the symptoms, and the extremely short duration of the disease.

"Most commonly at the commencement there were headach; chills, followed by a slight degree of heat; pains in the limbs; redness of the face and eyes. The epigastric pains were rare, and so too were the vomitings, which were never spontaneous, and which in no case were of a brownish colour. The heat and the thirst were moderate, and so slight was the diminution of the strength, that the patients did not either keep their bed at all, or were there for half a day only, thus, according to their expressions, going through with the disease on foot."

According to the observations of the French commission, the mortality during the epidemic, was in the proportion of one to six and a half. The proportion of deaths amongst the children was smaller than amongst the women, and these in their turn suffered less from the fever than the men. But this statement is not given as appli-

cable to the mortality of the yellow fever in general, nor even to that of previous epidemics at Gibraltar.

In the chapter on diagnosis M. Louis exhibits a parallel between the symptoms of yellow and of typhoid fever, and has not much difficulty in establishing their distinctive characters. It was natural for him thus to compare the yellow fever with almost the only continued fever which he had before had an opportunity of observing. How much is it to be regretted that he had never been in a situation to study the diseases of our southern states, or of other regions where similar endemics occur, that he might have compared their features with the characters of yellow fever, and established whether or not their family likeness to that affection entitled them to be ranked amongst its varieties. Here is a field for those of our southern countrymen who aspire to a high rank in the medical world. They have a path marked out for them, in the admirable work before us; the plan of their studies accurately defined, and the encouragement of being able to produce a history of yellow fever, which shall for ever set at rest the numerous questions in regard to it, which now puzzle the inquirer after truth, and give rise to interminable discussions about the nature and distinctive marks of that disease. Careful and systematic observations, an accurate record of them, and a logical analysis of their facts, are all that is necessary to accomplish more brilliant discoveries, and to confer a more lasting benefit on the scientific world, than any hitherto attained.

M. Louis gives some very interesting statements in answer to the question, "Does a first attack of yellow fever preserve from a second?" It results from an examination of a vast mass of evidence upon this subject, that, "among nine thousand persons, who had once been attacked by yellow fever, and who had been exposed a second time to the influence of all the causes of that disease, twenty-five had it twice." He therefore concludes "that a first attack of yellow fever preserves from a second, as effectually, and at least in as great a degree, as a first attack of an eruptive disease, of the small-pox for instance, preserves from a second attack of the same disease."

The treatment made use of in the epidemic of Gibraltar was of two kinds, according as the patients came under the care of the English physicians of the post, or under that of the Spanish physicians of the city. The former class of practitioners had recourse, in the beginning of the epidemic, to very free depletion, regarding it as their principal therapeutic agent, but afterwards restricting its office to that of an auxiliary to purgatives, and large doses of calomel. In the commencement of an attack they would prescribe eight grains of jalap, and as much of scammony and calomel, and follow the administration of these agents by that of an ounce or an ounce and a half of castor-oil. In addition, purgative enamata were prescribed, and repeated on the following days, together with an ounce of castor-oil, or epsom or glauber salts by the mouth. "All, or nearly all, prescribed calomel, at the dose of from two to three grains every two hours, counting from the first or second day of the disease." "After the first week of the epidemic, the practice of the military medical men became the same; they all administered purgatives and calomel, regarding the latter as their sheet anchor. At this time blood-letting was used only to combat particular symptoms, such as pain at the epigastrium, headach; and against this last leeches were much used. Under the same circumstances blisters were applied to the epigastrium, to prevent the recurrence of vomitings, and at the same time Riviere's anti-emetic potion was prescribed, or else some preparation of opium."

"In the town of Gibraltar, little use was made of mercurial preparations, except in severe cases. Unprofessional persons thought they had found in olive oil an almost infallible remedy. A considerable dose of it was taken, and an enema to promote its operation, but no other remedies were employed. A Spanish physician, Dr. Ardevol, gave, in the commencement of the disease, a mild purgative, and if, in the first six hours of the disease, there was obtuse pain or epigastric oppression, an emeto-cathartic. He considered this treatment inefficient or even injurious, later in the disease. During the first twenty-four hours he prescribed emollient enemata every two or three hours, and advised abstinence from food, and the use of acidulated drinks. When there were strong symptoms of gastritis, he excited the action of the bowels by means of laxative enemata; and when the patient became feeble, he prescribed a draught in which the distilled water of orange flowers and lemon peel were the principal ingredients, or an infusion of quinquina. He had recourse to mercury in desperate cases only, prescribing frictions with two ounces and a half of mercurial ointment; and if on the third day, with a commencement of salivation, there was neither hiccough nor yellowness, the cure was certain. But, all things considered, the mortality was equal in the two classes of patients so differently treated."

Upon this startling, but unavoidable conclusion, M. Louis makes the following remark, which might serve as a motto to all who are not to be deterred from adopting a logical inference from well ascertained facts, because it may happen to war with previous opinions, or instinctive doubts. "Undoubtedly, these results will appear very singular, and for that reason there may be some who will refuse to admit them. BUT SCIENCE IS NOT AN AFFAIR OF SENTIMENT; WE SHOULD ASK ONLY WHAT IS TRUE, AND WHETHER CONCLUSIONS ARE RIGIDLY DEDUCED."

The author proceeds to inquire what indications are to be fulfilled in the treatment of yellow fever. He reminds the reader that in the majority of the cases there was gastritis, in all an affection of the liver of an unknown nature, and that the severest symptoms could be referred neither to these nor to any other lesions. "These facts show that we can only hope for a moderate success, even by the best adapted treatment, since we can direct our means against a part of the trouble only, that which is apparent. These facts are to be borne in mind for another reason; they do not warrant the rejection of an empirical treatment, however absurd or ridiculous it may appear, since it is against an unknown cause that therapeutic agents are to be employed." In the absence of any treatment, the utility of which had been demonstrated by experience, M. Louis recommends the following, as pointed out by a study of the symptoms and lesions.

He thinks that in the first twenty-four hours bleeding should be employed, the amount of blood withdrawn to be regulated by the severity of the febrile symptoms. The patient should take cool and slightly acid drinks in as large a quantity as the stomach will bear without nausea. The intestinal canal should be evacuated by mild enemata, repeated several times in the twenty-four hours, and emollient fomentations should be applied over the abdomen. He discusses the propriety of applying leeches to the epigastrium to relieve the pain there, and to control the vomiting, and questions the superiority of this mode over general depletion. He doubts the probability of arresting the intestinal hæmorrhage by venesection, and suggests the employment of astringents before the appearance of the black stools. In regard to the remedy proper to alter the morbid condition of the liver, he says its discovery "must be left to time and chance, and to the acuteness of the observer, for experience has sufficiently proved that no dependence is to be placed on mercurial preparations of any sort."

In concluding this brief account of a work of which no analysis can give a just idea, we cannot refrain from expressing a hope that its general perusal may excite American physicians to avail themselves of the ample materials presented every year for a thorough investigation of the nature and characters of yellow fever. In no other country where the disease occurs epidemically, is medical science better cultivated than in this; it is, therefore, our privilege, as well as our duty, to examine for ourselves, and to rest contented no longer with the theories of the past, no matter how ingenious or plausible, and still less to be satisfied with the crude and uncertain opinions derived from what is so fondly and so falsely called "experience."

A. S.

THE MEDICAL EXAMINER.

PHILADELPHIA, DECEMBER 7, 1839.

EPIDEMIC DISEASES OF THE U. STATES.

We are much gratified to find that the desire which we expressed a short time since, to receive details of the different epidemic diseases which have prevailed throughout a large portion of the United States, has been already responded to by many members of the profession. We should be glad to receive some histories of the yellow fever, especially as connected with the statistics of the disease in several cities of the South.

The extended circulation of the Examiner, particularly in the Southern States, renders these statements of great value to the profession; and the physician who publishes the results of his practice, (and all accurate accounts are interesting,) writes for his brethren scattered over a wide surface of country, and has the advantage of direct correspondence, with the permanence of a journal. It is often annoying to us, that we should be obliged to glean matter relative to the diseases most common in our own country from foreigners, who have seen them, as it were, only in passing, and have not become thoroughly or practically acquainted with their nature.

We have already published some interesting accounts of intermittent and remittent fevers; and we should be equally pleased to hear of the treatment and results of the same diseases in other localities, as well as of the yellow fever and dysentery.

There are still many points of interest, which can only be settled by careful collection of documents from numerous and scattered localities. For these diseases vary so much in their type, that they must be studied on a very extended scale, to accumulate any thing like positive data.

INCREASE OF MEDICAL SCHOOLS.

The increase of medical schools induces some to fear that the profession is rapidly becoming overstocked with labourers who find no employment, and will never cease to regret their entrance upon a mode of life where every avenue seems blocked up. If the profession is to be regarded in a merely pecuniary light,—if, for the capital and labour expended, the physician is to look for the income which he might have gained by entering upon another career, in which the employment of capital is more direct, and its returns more abundant,—there is no doubt that physicians are too numerous. If a medical man is to look for no other reward than mere pecuniary profit, he will surely be disappointed. But there are other considerations which ought to be taken into the account. The social position which an educated physician claims, and the numerous sources of gratification which he derives from the exercise of a profession in which so many occasions arise of gratifying his kindly and benevolent feelings, are really part of his reward, and we well know that they are so regarded by most members of the profession.

Besides, in a country like ours, the passage from one occupation to another is so easy, that he who feels that he is illy fitted for the calling of a physician, or from circumstances is unable to pursue it in a way satisfactory to himself, can readily change it for another which offers greater profits, or is more congenial to his taste. The alarm which is sometimes expressed upon this subject is, we are sure, quite unnecessary. The maxim that no one is satisfied with his own vocation is at least as old as the days of Horace, and its justness will not be contested now.

The truth is, that a number of medical schools are necessary to supply the wants of the country, more especially as many of those educated for medicine either do not practice, or expect to follow their profession for a comparatively short period, leaving it afterwards for agriculture, or other similar pursuits.

The multiplication of schools is, however, attended with some temporary evils. The natural tendency of them may be to foist into the profession a certain number of incompetent persons, who, it is said, are urged to enter an institution to increase the number of its pupils. At least, this is an objection sometimes urged, and one not altogether without weight. But, if an institution is ever culpable of a grave error of this kind, its true and lasting interest is certainly not promoted by it, and it must soon cease.

The concentration of medical instruction in some two or three institutions is not practicable, nor indeed to be desired. The character of all our schools depends upon individual reputation, and in most respects they must be private institutions. This gives a freedom to their action which would be unattainable if very close restrictions were enforced; and an institution will rise or fall, first, according to its own merits, and secondly, according to the demand for instruction. If an institution is unnecessary, it will cease to be profitable, and may even be a source of expense to its members; this result will take place even if the faculty be thoroughly competent. This natural adjusting of the number of medical schools to the wants of the population, is, we are sure, the only natural and legitimate mode of getting over the difficulty. In fact, it is the mode adopted in every country to a greater or less degree.

It is stated sometimes that the number of schools in the United States is totally disproportioned to the number found in other countries: this is altogether an error. If we set down the number of schools at thirty, we shall probably rather exceed than fall short of the actual number. In England the number of schools is far greater; and although the population is more numerous than that of the United States, there is employment for a less number of medical men, for the plain reason that our extent of country is much greater, and many parts of it are less salubrious. Even on the continent of Europe the number of schools is much greater than would appear from a superficial examination. For example, in France, there are but three degree-conferring medical schools; but the number of secondary schools, where a portion, at least, of the period of study of each pupil is spent, is probably not much less than in the United States.

In England, the difficulty is removed by a very simple process. Degrees or licenses are granted by the University of London, the Colleges of Physicians, and Surgeons, and by the Apothecaries' Company: these institutions are not strictly bodies of teachers, although the teachers of many

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different schools belong to them. Should the number of medical schools tend to increase in this country, the natural check will doubtless be found in some similar arrangement; and we have no fears as to the result. In at least two Northern colleges, a beginning has already been made, and examiners or judges are added to the faculty at their examinations. This, or some other means, will doubtless arise from the necessity of the case, should the value of a diploma, from incautious conduct on the part of our medical schools, greatly sink below its accustomed estimate,—and we have no fear of overstocking the profession. A test will always be required, if not for permission to practise, at least for obtaining the confidence of the community. This test is, in the main, reputation as a skilful practitioner; but, besides this, examinations, and attendance on regular courses of lectures, will always have their value.

It is true, medical schools are sometimes founded where they are not really needed. This arises often from wrong and exaggerated estimates of the emoluments of teachers. With the exception of a very few institutions, medical schools do not pay nearly so well as the same employment of time and labour in the practice of the profession. Hence, as a general rule, a teacher is unwilling to trust to the fees of pupils for his sole support, and well he may be, for in most instances they afford but a slender livelihood. There are, therefore, but few who desire to separate the teacher from the practitioner; most men who are engaged in teaching, direct their attention at the same time to the practice of some department of the profession. There is then no real, still more, no necessary distinction between teachers and practitioners: the qualifications for success in teaching and practising a profession are, however, not precisely the same; and one may meet with but indifferent success in one pursuit, while he may have earned a well-deserved reputation in the other. That equal reputation is not more frequently attained in both these departments, arises from the many qualities which must be united in one individual. It is rare that the quickness of observation, coolness and rapidity of judgment, and decision of action, which are requisite to form a skilful practitioner, are united with the eloquence and methodical arrangement of thought necessary for an eminent teacher.

DEATH OF DR. FRISBY, OF NATCHEZ.

We announce with great regret the death of one of our subscribers, from whose labours we anticipated many valuable contributions,—Dr. Asa Frisby, of Natchez. He fell a victim to the yellow fever, which has been so destructive during the present year in many of the Southern cities.

Dr. Frisby was a physician of uncommon promise, wedded to his profession, zealous in cultivating it, and fearless amid the dangers to which he seemed to be constantly exposed. During a residence of eighteen months at the Philadelphia Hospital, he contracted the typhus fever, which was at that time epidemic, and narrowly escaped with his life.

The duties at the hospital were most arduous, and were performed by him with a spirit above all praise; he fell at last a victim to another disease at least as formidable as epidemic typhus, and more insatiable in the number of its victims.

CLINICAL LECTURES.

PHILADELPHIA HOSPITAL.

Saturday, November 30, 1830.

LECTURE ON SUBACUTE DYSENTERY CONTINUED—PATHOLOGY AND TREATMENT.—PULMONARY PHTHISIS.

By W. W. Gerhard, M.D.

No. 3—Winter Course.

I shall bring forward to-day a case of the subacute form of dysentery, and afterwards several cases of phthisis, for the purpose of illustrating some of the various modes in which this disease commences.

The case of dysentery is one of a class not unfrequently met with during the winter months, in which not only the bowels, but the mucous membranes generally, are affected. The patient is a man of nearly fifty years of age, and an habitual drunkard. A fortnight since, he had an attack of *delirium tremens*, the symptoms of which have continued during several days after his admission into the hospital. After an exposure to cold recently, he was seized with bronchitis, and the affection of the bowels for which he is at present under treatment. The alvine discharges have been very frequent, sometimes several in the course of an hour: the pain was constant, but much more moderate than it usually is in the more acute variety of the disease. The character of the stools equally shows that it is not a case of acute dysentery: they consist of ordinary thin, fæcal matter, mixed with mucus, but at no time has either *lymph* or *blood* been present. This case is a very good exemplification of the nature of the discharges in subacute dysentery, and the changes which occur in them at different periods of the disease. At first they are either sero-mucous, or thin and feculent: subsequently their consistence and appearance become altered, and they present the characters observed at the present stage of the case before us. Blood and lymph are very seldom to be found; but in place

of them, there is sometimes a grumous, fœtid matter, resembling the scrapings of a disorganized intestine, which evidently results from partial sloughing of the bowel.

Although the stools differ so strikingly from those of the acute form of the disease, subacute dysentery is still an inflammatory affection; but the degree of action is moderate, on account either of the debilitated condition of patients labouring under it, from old age, or irregular habits, or of the epidemic constitution of the season. A constitution of this sort, indeed, appears to prevail at present, imparting to epidemic diseases a tendency to assume more or less of the characters of the case which we are considering.

The principal features of the case are as follows. (Complete notes were not preserved.)

J. G., admitted November 25th. The bowels are loose; there is cough, with whitish expectoration; patient much debilitated. A dose of the oleaginous mixture was administered, and a small quantity of milk punch allowed.

26*th*.—The punch discontinued.

28*th*.—Dysenteric symptoms more severe; twelve discharges from the bowels in the course of five hours; stools thin and watery, with very little feculent matter, but very fœtid; slight pain on pressure over the abdomen; cough continues; mind confused and agitated. Six ounces of blood taken by cups placed over the colon, and the following combination prescribed:

℞. Pulv. Ipecac. et Opii gr. vj.
Hydrarg. Submuriat. gr. j.
Ext. Krameriæ gr. v. M.

To be repeated every three hours. Blisters also applied to the abdomen.

29*th*.—The Dover's powder and rhatany in the above prescription were diminished to three grains each, and the calomel to one-eighth of a grain. It was found necessary to reduce the Dover's powder, because it had produced some symptoms of narcotism; that is, contraction of the pupil, and confusion of mind, without diminishing the frequency of the stools. When such a state of things occurs, you must either discontinue opiates, or reduce the quantity administered; else the narcotic may accumulate in the system, and may cause the patient to sink suddenly and almost imperceptibly. In the early stages of acute dysentery, opium may often be given very largely without producing its characteristic effect. An attack of this variety occurred a few years since in one of the resident physicians of this hospital. He was attended by Dr. Horner and myself, and the quantity of opium was gradually increased to thirty grains a day before the least effect was produced. But in the subacute form we cannot employ such large quantities with safety, and the remedy should be withheld, or its dose diminished, as soon as it produces its specific effects. You must recollect, too, that even in the acute form of the disease, you must give it very cautiously; for mischief may in any case result from it, if administered in a careless or rash manner. The rule is, to increase it gradually, and watch carefully its effects; suspend it altogether, or diminish it greatly, the moment you find any signs of narcotism.

The Dover's powder and calomel have been the active remedies used in the treatment of this case: the extract of rhatany has been productive of no very decided benefit. The good effects of mercury in this disease, (as remarked in a previous lecture,) coincide with the occurrence of slight ptyalism,—which I find, upon examination, to have taken place in the patient before us. If it produces no amelioration of the symptoms at this characteristic period of its operation, mercury should be discontinued; and in all cases where there is sloughing of the mucous membrane, and a gangrenous fœtor of the discharges, its use should be avoided, as it then undoubtedly tends to aggravate the severity of the disease.

You must have remarked that stimuli were employed in the early treatment of this case. The patient came in, much debilitated from the effects of delirium tremens and previous dissipation, and a small quantity of milk punch was therefore allowed. In all cases of this disease, indeed, in which there is an enfeebled condition of the vital energies, it is necessary to use stimuli. This is particularly true of the malignant or sloughing variety of dysentery, between which and the subacute there is an intimate connexion. The latter has a constant tendency to pass into the former; and from what has so frequently occurred in camps and hospitals, I have no doubt that the present case would assume the malignant form, if there were many of a similar character in the wards at the same time. If such a change should supervene, it would be necessary, as I have already remarked, to discontinue the use of mercurials, and to rely principally upon Dover's powder and stimuli.

The cupping in this case produced only moderate benefit, whereas the blister operated very advantageously. It is one of those instances of moderate, but obstinate inflammatory action, to which blisters are so peculiarly adapted. Cupping or leeching would be better applicable to the more violent and acute cases of the disease.

The woman who was brought before you two weeks since as a case of acute dysentery, and was treated with mercurials, is now quite well. The man who was labouring under the subacute form of the disease, at first improved considerably, by the use of Dover's powder and astringents, but afterwards sank again, and died on the 28th inst. The results of the post mortem examination are as follows, and show the cause of death:

I now present to you the lesions met with in the intestinal canal.

The mucous coat of the rectum is of a bluish colour, and softened. As we pass up the colon, we find extensive ulcerations, some of which are cicatrized. There is a large cicatrix near the sigmoid flexures; the newly formed membrane is thin and bluish; the old membrane, on the contrary, is much thickened, and to a still greater

degree are the cellular and muscular coats. Farther up the ulcers are scattered about, of small size; the mucous membrane softened. Near the cœcum the morbid changes are of more recent date: the mucous membrane is highly injected, and patches of lymph are here and there observed. The ulcers are in the acute stage of their progress; they are of a rounded form, and are seen to have commenced in the follicles of the intestine. We have here exemplified the different appearances in the acute and chronic forms of dysentery: in the upper part of the colon, where the former condition prevailed, the mucous membrane is of a bright red colour, as in acute inflammation of this tissue generally; but in the lower part, where the disease had become chronic, the colon is bluish. This examination also illustrates a remark which I made in a former lecture, that dysentery usually commences in the lower portion of the colon, and proceeds upwards in its course.

The disease has also passed into the ileum, which is in a state of acute inflammation. There are bright red spots, and patches of lymph, scattered over the mucous membrane, for some distance from the ileo-cœcal valve. The glands of Peyer are altogether or nearly intact; in which circumstance you perceive a striking difference from the inflammation of the ileum which occurs in typhoid fever. This acute inflammation of the small intestine, supervening in the course of the dysentery, was the immediate cause of death. The mucous membrane becomes gradually more healthy as we ascend, but is more or less softened.

The stomach also presents marks of inflammation. At the splenic extremity the coats are very thin, and much softened; this condition was in a great measure produced by the action of the gastric juice, which had become altered in constitution, and excessively acid; the membranes at this point have an acid smell, and produce an unusually powerful reaction upon test paper. Throughout the remaining portions of this viscus the coats are white and opaque, from an alteration both in the fluids and the structure. There are dark red patches in several places. Near the pylorus there is a puckering of the mucous membrane, produced by a cicatrix. This membrane is generally softened, but the colour is not particularly reddened. The coats of the pylorus are thickened and indurated, and there is a scirrhous formation in the cellular tissue; its fibrous character is, however, not yet distinctly marked. The symptoms produced by scirrhus of the pylorus, are difficulty of digestion, and vomiting from time to time, which may be so severe and repeated as to produce death. It may be remarked that these scirrhous affections are frequently developed in constitutions where the diathesis has been latent, by depression of mind, particularly in old persons. This is illustrated by the instance of Napoleon; and I recollect an equally striking case occurring in a Swiss emigrant.

The liver is also affected in the present case, but lesions of this organ accompany dysentery far more frequently in hot than in cold and temperate climates. Its colour is a pale yellow, and it appears to be in the first stage of that alteration called the *fatty degeneracy*. The tests of this condition are the greasy appearance of the scalpel when drawn through the substance of the liver, and the bright flame produced by burning a piece of paper which has been moistened with the fatty fluid. The acini are also observed to be very distinct, and surrounded by vessels, producing an appearance of great vascularity and incipient inflammation of the liver. The fatty degeneracy in this case was probably produced by the habitual intemperance of the patient, and subsequently increased by the dysentery.

The spleen, which is so often found greatly enlarged and softened in various diseases, is here nearly of the natural size, but the texture is softened. The cause of this change in the spleen is not well understood, but it appears to be in some way connected with an alteration of the blood. The spleen probably performs an important part in the formation of this fluid; but what the precise office is, cannot be yet ascertained.

From this examination, you will perceive how readily the most extensive ulcerations of the mucous membrane of the intestine will cicatrize, provided the muscular coat is not exposed by them.

PULMONARY PHTHISIS.

I next proceed to bring to your notice several cases of phthisis pulmonalis, with the view of exemplifying some of its modes of origin;—this is the more appropriate, as the present season gives rise to few acute diseases.

Case 1*st*.—You may recollect that this man came before you on the 23d inst., with many symptoms resembling those of intermittent fever. Since that time the skin has continued hot, with occasional sweats; the pulse has usually beaten one hundred and sixteen in the minute; yesterday, ninety-six; it is also quick and irritable, jerking, and easily felt, but small, and not corded. This character of the pulse is often important as a diagnostic sign: it occurs in chronic diseases, or in acute diseases gradually passing into a chronic state, accompanied by general disorder of the system. It is most frequently observed in incipient phthisis, particularly when this disease is attended by pleurisy. The respiration is also much more hurried than natural, being performed from thirty to thirty-six times a minute. Cough frequent; expectoration thin, white, and small in quantity; tongue at present somewhat pale, and gradually cleaning. The respiration is resuming its natural character in the lower part of the right lung, owing to the decline of the pleurisy; but it remains rude in the upper lobe of the lung; a sign corresponding to the tuberculous condition of the part. The action of the heart continues exaggerated, and the second sound is still absent. The difficulty of walking also continues, but in a somewhat less degree; it is dependent on an acute affection of the spine.

The treatment of this case has consisted in the application of a blister to the cardiac region, and the administration of digitalis and Dover's powder, in the proportion of one-third of a grain of the former to three grains of the latter, the dose being repeated four times a day. Considerable advantage has resulted from these measures; the inflammation which had existed being in a great measure overcome, and the inordinate action of the heart diminished. The digitalis and Dover's powder were given particularly with a view to the latter effect, and to allay the irritability of the pulse. This combination sometimes produces a dryness of the mouth, and of the alimentary canal generally, which is unfavourable to the due performance of the digestive functions: but it is by far the best mode of administering these remedies.

I have introduced this case as an example of tubercular disease commencing with pleurisy. The tubercular deposition seems to be a result of the inflammation, as truly as are its ordinary consequences, effusion, adhesion, &c. In most patients the latter conditions would be the only effects of the inflammation; but in the present case there existed a cachectic condition of the system, predisposing it to the occurrence of phthisis: hence this disease was developed as a consequence of the inflammation. The inflammation which thus produces phthisis, may be seated in any of the tissues of the lungs: thus, it may be a bronchitis, or a pneumonia, as well as a pleurisy. But it usually affects a *serous* membrane: therefore, pleurisy is more frequent than the other pulmonary inflammations preceding phthisis, just as peritonitis also is often the primary lesion in tuberculous deposits in the peritoneum. But these cases of inflammatory phthisis are by no means so frequent as those which commence gradually and slowly. Of this more common form we have an example in the next case.

Case 2d.—The patient, who is a printer, has for a long time had a slight cough, and other symptoms of incipient phthisis. During the last summer, there was a great aggravation of all the symptoms, accompanied by a slight inflammation of the bronchial tubes; and the patient is now scarcely able to leave his bed. In this case, it is evident that the inflammation was the consequence, not the cause of the phthisis, as in the preceding case. With regard to those cases of phthisis which I suppose to be caused by inflammation; it may be argued by those opposed to this view of the origin of the disease, that the phthisis *existed*, but in a *latent* form, previously to the commencement of the inflammation. But those cases are exceedingly rare, in which the disease does not declare itself, either by some symptoms, or by physical signs. Hence, I feel compelled to believe, in contradiction to my former opinion, that phthisis may arise from inflammation, occurring in constitutions predisposed to the formation of tubercles.

Case 3d.—This woman has had a slight cough for four years; about three months since, after exposure to wet and cold, the cough and other symptoms were greatly aggravated. These circumstances are sufficient to show that, in this case also, the inflammatory symptoms supervened in the course of the phthisis, instead of preceding it.

Case 4th.—This woman also has had a cough of four years standing, which became very bad during the summer; after working in an exposed situation. During the last week there has been flying pains under the ribs of the right side. These pains arise from the slight and shifting pleurisy so often met with in cases of tubercular disease. These pleurisies are generally dry; that is, unattended by effusion. The expectoration is copious: the sputa are in round masses, and of the kind called, from this circumstance, nummular; it usually sinks in water, but sometimes floats, from its containing particles of air; it consists of pus, mixed with mucus, and sometimes a portion of broken-down tubercular matter.

In both these women, the skin has assumed a dusky, earthy colour, entirely distinct from the paleness which accompanies it; this hue is almost peculiar to phthisis. The sclerotica has that light blue tinge which is so frequently met with in certain cases of phthisis. The appetite has remained good: indeed a good appetite, persisting for a long time in a patient affected with cough and gradually becoming thin and pale, is one of the most constant indications of commencing phthisis pulmonalis; in many cases the appetite is morbidly great. One of the patients is *jaundiced*. This probably arises from a fatty degeneracy of the liver, accompanied by enlargement; a condition very frequently occurring in this disease; more particularly in female patients. The jaundice arising from this cause must be carefully distinguished by the practitioner from that which depends upon primary affections of the liver, and is totally unconnected with any disease of the lungs. I have seen many cases of phthisis in which the liver was supposed to be the sole cause of the mischief. It is true, that in a large proportion of these patients the liver was fatty, but this condition arises from the phthisis, and is neither a primary lesion, nor one in itself of much importance.

Case 5th.—This man has been very recently admitted into the hospital. He is much emaciated, and has had cough for four weeks: the disease is therefore probably phthisis. This probability is rendered almost certain by the respiration being very deficient under one clavicle, and feeble under the other also. But there are as yet no signs of the existence of a cavity. The patient's account of the manner in which the disease commenced is this: After having been engaged at hard labour, out of doors, during the day, he was awakened from sleep in the night by a sudden fit of coughing and hæmoptysis; in a short time he discharged in this way a pint of blood. The hæmoptysis lasted several days; but for the last three weeks the sputa have contained no blood, but only a frothy matter. This is an example of the *hæmorrhagic* variety of phthisis. The hæmorrhage with which the disease commenced arose from the mucous membrane of the

bronchial tubes. In such cases the hardening of the pulmonary tissue, from the deposition of tubercular matter, does not generally commence early in the progress of the disease; or rather, it does not soon proceed to a high degree of induration in any particular portion of the lung.

The patient is a shoemaker: and we may remark that shoemakers and printers are particularly subject to phthisis, from the confined and sedentary nature of their occupations. His constitution has always been delicate; but he has never before had cough or pain in the chest, except after occasional exposure to cold. Immediately previous to the present attack, he was in the enjoyment of his usual degree of health.

Case 6th.—The patient is, like the last, a shoemaker by trade, aged 42. He has had cough for nearly two years, but it has been generally unattended with pain; there has been merely a sense of oppression at the lower end of the sternum. In February, 1838, he had an attack of pleurisy, which has left behind it the usual sign of contraction of the chest. He had no cough previously to the attack of pleurisy, except for a short time, about six months before, and occasionally during spells of intermittent fever. The case, therefore, appears to be one of the inflammatory variety of phthisis, having been preceded, as in the first of these cases, by inflammation of the pleura.

Case 7th.—This is another example of phthisis commencing suddenly, with an attack of inflammation. The patient, a man 41 years of age, has had cough for eighteen months; it began after he had been working at the engines at a fire; had previously been a stout, healthy man, and had never had a cough of any duration. The attack was one of considerable severity, but the patient was not confined to bed by it; he did light work for a year afterwards, but for the last six months has been unable to perform any kind of labour. He is much emaciated, and presents all the signs of confirmed phthisis.

The cases of phthisis arising from inflammation are much more frequently found in men accustomed to hard labour than in others, and especially in those past the age of five and thirty. In younger persons, especially females, the disease is more frequent, and more commonly begins in a slow and insidious manner; inflammation may, and often does, occur in these cases, but then it is strictly secondary, and depends either upon the irritation of tubercles in the lungs, or the accompanying fever.

Saturday, November 30th.

LECTURE ON OSTEO-SARCOMA, &c.

BY WM. GIBSON, M. D.

As I promised, I bring before you to-day, gentlemen, one of the stricture cases I showed you two weeks ago. You will recollect, at that time, we found three strictures, one an inch and a half from the mouth of the urethra, another about four inches, and the third near the bulb. With some difficulty, I then passed a bougie into his bladder; it gave him considerable pain, and produced a free discharge of blood; you will also recollect the manner in which his urine came out of the canal, spreading in several streams, and each one passing off at a right angle from the penis. I ordered an instrument to be introduced daily, and to be retained in contact with the strictures an hour or two, gradually increasing the size of the instrument. This has been done, and I now show you the improvement that has taken place: he passes his water in your presence, as before, but instead of the watering-pot-like discharge, it issues in a single stream, small, it is true, and not very rapid, but indicating a far better state of his urethra. I now introduce a rather large bougie, and you observe the ease with which it slips into the bladder, scarcely meeting any obstruction; this is the best evidence of his condition, and he may now be said to be in a very comfortable state, in which I shall leave him; continuing, however, for some time the treatment we have pursued.

On Saturday last, I showed you a man with an enormous tumour on the right side of his head, and then stated that I had seen him in the house about a year ago, but that before I could get a chance to show him to the class he had decamped, and that I had since heard nothing of him until he again presented himself this fall. You also saw, from a cicatrix through the middle of the tumour, that he had undergone an operation, and that this operation must have been merely a partial one. We found that he had been under the hands of Dr. Carpenter, a highly respectable surgeon, of Pottsville, in this state; and his own account of himself not being very satisfactory, I requested one of the residents to write to that gentleman, asking information relative to his case, &c. My own opinion was, as I stated to you, that Dr. Carpenter, judging that if the tumour was carcinomatous, and continued to grow, his patient must die, had decided to cut into it and, examining into its nature, determine whether any chance existed for its safe removal; and that, having removed a portion of it, he discovered, from its composition, the futility of any attempt to save his patient, and accordingly desisted. We have since heard from this gentleman, and judge, from the tenor of his letter, that my supposition was correct, in other words that it was a case of osteo-sarcoma. As he now stands before us, you may observe the tumour involves the anterior half of the right parietal bone, and nearly half the frontal bone on the right side, extending down to the orbitar process, and pushing the eye almost from the socket. The tumour is divided into two by the cicatrix left by the operation; this is deep enough to receive a couple of fingers, and is some three or four inches long; the surface is smooth and uniform, dense and unyielding; there are no ulcerated spots, neither any feeling of fluctuation at any one point; his sight is nearly lost from amaurosis in each eye. He traces this tumour to a kick from a horse, received on the forehead, about two years ago; from that time the

tumour commenced, and has been gradually increasing; his loss of sight has also been gradual.

Osteo-sarcoma signifies the growth within a bone of a fleshy, cartilaginous or fatty mass, producing an enlargement of the original bone, often absorption, and indeed fracture of the bone, and presenting a striking analogy with cancerous affections of the soft parts; it may attack any of the bones, but has more frequently been found in those of the face, and in the ends of the long bones. Boyer, the celebrated French surgeon, found the os innominatum more often the seat of it than any bone in the body, but he is perhaps the only writer so describing it. The disease commences, ordinarily, with deep seated, lancinating pains, which exist sometimes before any swelling appears; these pains increase in violence, and already affect the constitution of the patient, before any change in the part takes place. If a limb be affected, the swelling occupies the entire circumference; it is often unequal on the surface, and studded over with knots of various dimensions, which, in advanced stages of the disease, frequently ulcerate, and discharge a thin fœtid matter; sometimes, however, the surface is plain and smooth, unyielding to pressure, and without any disposition to ulceration. Old persons are not often subject to the disease, though I have met with it in two patients beyond the age of seventy. In the worst forms of it, when the pain is excessive, the ulceration and discharge profuse, and hectic fever present, we may look for a speedy termination of the case; but we do meet with cases in which, after the excessive pain which characterises its commencement, the disease seems to be stationary, so that a patient may live a long time in a state of comfort we had no right to expect. But these are rare cases, and most generally the violence of the symptoms from the beginning predict a rapid course, and, indeed, we have examples enough to prove that a few months will finish it.

The alteration which the structure of bones undergoes in osteo-sarcoma, is very interesting. The tumour being cut into, or broken up, we get a view of numerous cells, containing a thick, cheesy, lard-like matter, or sometimes a gelatinous fluid oozes out, leaving the cells lined by a delicate membrane; the bone itself, when the disease is not far advanced, will often be found rising in numerous spicula, assuming the shape often of coral, or of certain vegetable productions, and, in some examples, instead of the cheesy or lardaceous matter, we find the softening of the bone more to resemble cartilage; the soft parts around, which have become diseased, are converted into the same matter; the muscles, ligaments, vessels and periosteum are all included in the same mass, and have undergone the same degeneration.

The causes of osteo-sarcoma are, as yet, undetermined. Syphilis, scrofula, rheumatism, and external violence have been mentioned as producing it. In the present instance, the blow upon the forehead appears to have been the exciting cause. Doubtless, the different affections I have mentioned may play a certain part in developing the disease, but instances have occurred where neither of them has existed; where, indeed, no probable cause could be suggested, and where the course has been rapid, and the termination fatal. Boyer's opinion was very clearly in favour of the action of a cancerous virus upon the bony tissue, and he was the more confirmed in it, from observing the analogy existing between the return of the disease to the stump after amputation, and the re-production of cancerous tumours after extirpation from the soft parts.

It appears sometimes as a hereditary disease, and has been transmitted successively to numerous individuals of the same family.

The prognosis of this terrible disease must always be unfavourable. The treatment of it is almost useless. Once developed, there appears to be no means of arresting its progress, and we must rely chiefly upon palliative remedies, such as are calculated to relieve pain, and quiet irritation. The last resource is the amputation of the diseased part, where it is practicable. Unfortunately, amputation itself will often prove unavailing, owing, in many instances, to constitutional disturbance. It has been ascertained, also, beyond a doubt, that the lungs and other important internal organs have been attacked in a very short time after the removal of a limb affected with the disease. In the case of this poor fellow we can do nothing; an operation has already been attempted to see whether it were possible to relieve him; it has been seen that it is not. I have no doubt at all, that both tables of the skull are diseased, as well as the dura mater, and any additional operation would be but cruelty. He is anxious himself, also, to have nothing done.

I again bring before you the little patient with hare-lip, and cleft of palate, whom you saw on Saturday last. His friends are very anxious to have his deformity removed, and I have determined to perform the operation for hare-lip; this may possibly improve the condition of his palate, also, but should it not, we can operate upon it afterwards, if it should be deemed advisable. I am rather inclined to think, however, that the case is too bad a one to afford much chance of success with the bony separation.

Neither do I promise success in the present operation, for the upper maxilla is so prominent on the right side, and the chasm between the lips so wide, that I almost fear the strain upon the two portions may be too great. The removal of the projecting portion of the right upper jaw with the teeth would probably facilitate the operation, but if it can be done without this additional pain and inconvenience, it will be far better, and I will at least give him the chance.

[Dr. Gibson now proceeded to perform the operation for hare-lip, after the manner described in the last lecture. The first cut, which was made through the edge of the right portion of the lip, was followed by the spirting of two small arteries; these were secured by ligatures. In making the cut on the opposite portion another artery sprang, and was also secured. The first pin was

now passed through the two portions, at the lower edge, and the ligature passed around it; a second, in the same manner, at the upper portion of the cut; the ligatures were now pulled away, and the cut surfaces being accurately in contact no blood escaped; a third pin was now passed between the others; the points being removed, a compress was placed on either side, under the ends of the pins, and a bandage passed vertically around the head, to push forward the muscles of the cheek and lips, and a horizontal turn given to it at the lip, so as to pass over the sutures, and secure them from accidental displacement. Owing to the cries and resistance of the patient, the operation was rather more tedious and difficult than is usual.]

FOREIGN SUMMARY.

On Hydrated Peroxyde of Iron (Ferri Subcarbonas) as an Antidote to Arsenic. By a commission of the Academy of Medicine of Paris.—[In our First, Fourth, and Seventh Volumes, some accounts were published of the facts which seemed to prove the value of peroxyde of iron as an antidote to arsenious acid. The case in the Seventh Volume was one in which a patient that had taken arsenic was rescued from apparently certain death by the administration of this compound by Dr. Deville; and the subject was then deemed of such importance by the Academy of Medicine of Paris, that a commission was appointed, composed of MM. Deville, Sandras, Nonat, and Guibourt, to inquire into the value of the supposed antidote, and the best means of preparing and administering it. The following is an abstract of the therapeutical part of the Report which has been presented.]

Dogs were first destroyed by arsenic, to determine the time in which that poison proves fatal when its action is not interfered with, and to obtain a standard by which the beneficial effects of the antidote might be more nearly estimated. Other dogs were killed by ligature of the œsophagus, to determine the influence which that necessary operation would have in their destruction. Four different oxides of iron were then used with different dogs, to whom arsenic had been given. A moist protoxyde, containing 19 per cent. of anhydrous peroxyde, and a black oxide containing 7 per cent. were entirely inefficacious; the dogs died as soon as they would if no means had been used to save them. The moist hydrated peroxyde, and the common dry hydrated peroxyde of iron (the subcarbonate of iron of former pharmacopœiæ, and ferri-sesqui-oxydum of the present,) both produced more important results. Ten animals poisoned with arsenic were treated with the first. In the first experiments large doses (half a drachm) of arsenic were given, and comparatively small quantities (four, six, or eight ounces) of the magma of peroxyde of iron; yet all the animals lived many hours longer than when the action of the arsenic was left uncontrolled. In the subsequent experiments, twelve grains of arsenic were given, and from eight to sixteen ounces of the antidote; and all the dogs thus treated lived as long as the ligature of the œsophagus would permit them.

With the second compound (the subcarbonate or sesqui-oxyde of iron,) in three experiments, in which four grains of arsenious acid and three ounces of the antidote were given, the animals, like those last mentioned, lived to the full period which is possible after tying the œsophagus. The arsenite of peroxyde of iron (the salt which was supposed to be found in the stomach in the preceding cases) was next given to dogs, and evidently acted as a virulent poison. But the apparent anomaly of these cases was proved, by some further experiments, to result from the arsenite of iron, thus administered, being decomposed by the hydrochloric and lactic acids of the gastric secretion, and some uncombined arsenious acid being set free; and this showed that, to counteract the effects of the arsenic, it would be necessary to administer the peroxyde of iron in considerable excess, so that every portion of arsenious acid, whether originally existing in the stomach or set free by the decomposition of arsenite of iron, might be completely neutralized.

The results of all these experiments on animals were completely confirmed by the chemical examinations by which M. Guibourt determined the composition and the mutual actions of the substances employed. Thus the first two oxydes that were employed were of no avail against the effects of the arsenic; and from M. Guibourt's chemical researches it was evident that they did not render arsenious acid insoluble. In the physiological experiments the moist hydrated peroxyde of iron neutralized the arsenious acid in the stomach, imperfectly, indeed, when there was a proportionally large quantity of acid, but completely when the proportion of arsenic was small and that of the peroxyde considerable; and in the chemical experiments it appeared that ten parts of the dry peroxyde were necessary to neutralize one of arsenious acid. In the physiological experiments, again, the dry peroxyde completely neutralized the arsenious acid; and in the chemical the same peroxyde reduced to traces scarcely perceptible the precipitate of arsenious acid that could be obtained by Marsh's apparatus.

It is evident, then, (the Report continues,) that in the circumstances which have been determined, dogs have taken arsenic sufficient to destroy them in a few hours, and that yet they have lived as long as if only the œsophagus had been tied. The poison, therefore, has had no effect;—the peroxyde of iron, which we have employed, is, consequently, a real and efficacious antidote to arsenious acid.

Now, it is demonstrated that we have *disempoisoned* dogs that had taken arsenic; we have determined what doses of hydrated peroxyde of iron are necessary to neutralize fatal quantities of arsenious acid; we have employed, with the greatest success, not only the moist peroxyde of iron (always an inconvenient compound,) but also the dry hydrated peroxyde, so common in the shops under the name of subcarbonate of iron, and

so easy to administer in all imaginable doses, and so little injurious that we can see no necessity to limit the employment that may be made of it in these cases of poisoning. The following, then, is the mode of treatment which we should advise to be employed in these cases.

The first duty of the physician is to remove from the stomach the greatest possible quantity of the poison, by vomiting. For this purpose watery drinks are improper; but while waiting for the peroxyde of iron, the doctor should tickle the uvula, and administer oil, which will not dissolve the arsenious acid ; but above all, as soon as it can be procured, the patient should be gorged with warm water, charged with some ounces of the peroxyde. The water will cause vomiting, and the peroxyde of iron, which is suspended in it, will neutralize the particles of arsenious acid that are dissolved. This means fulfils at once the two chief indications in every case of poisoning. The antidote must be given as soon as possible, and in such a quantity and for such a time that there can be no reason to suppose a single atom of arsenious acid remains in the stomach. Four ounces of the dry hydrated peroxyde of iron (the subcarbonate of iron of the shops, the ferri-sesquioxydum of the London Pharmacopœia,) should be suspended in twenty-four ounces of water, and a good glass of the mixture should be taken every ten minutes. After four ounces are consumed, fresh doses of the same compound should be administered in the same way, and the patient should not be considered out of danger till he has taken at least half an ounce of the peroxyde for each grain of arsenious acid supposed to have remained in the stomach. If, afterwards, symptoms of inflammation should manifest themselves, prompt recourse must be had to antiphlogistics, and other appropriate means.

In the short discussion which followed the reading of the Report, M. Devergie said he thought the conclusion too explicit; that the large quantities of the peroxyde which it was necessary to administer, even when but a small quantity of arsenic had been taken, would always be an obstacle to its use, and that it would be unwise to let the presumed antidote take the place of any of the other means usually resorted to, especially continued vomiting. At the conclusion of the discussion it was agreed to employ the words " antidote," instead of "real and efficacious antidote ;" and the Report was then unanimously ordered to be printed.—*Brit. and For. Med. Rev., from Revue Médicale.*

New sign of Death by Hanging. By ALPH. DEVERGIE.—(*Annales d'Hygiene Publique*, January 1839.)—M. Devergie proposes two additional tests, which he thinks will be of much service to the medical jurist in cases where there exists any dubiety as to whether a body found hanged has been so during life or after death. He has found in all cases of death by hanging "congestion of blood in the organs by which the generative act is accomplished," and "the existence of spermatic animalculæ in the urethral canal." The first of these has been frequently remarked before; but the last merits notice. He has been able to detect, with the aid of the microscope, spermatic animalculæ both in the semen which has been ejected upon the linen of the deceased, and also in the portions of that fluid still remaining within the canal of the urethra. He has even detected these animalculæ in seminal stains which had been on linen for no less a period than six months; but in this last case many of the animalculæ were found to have lost their tails, in consequence of the manipulations preparatory to their being subjected to the powers of the microscope.

He suggests the examination of spermatic stains by the microscope as a test of far greater value than any which chemistry is able to furnish. He advises that the fluid be pressed out from the uretha in preference to laying that canal open, as in this way the fallacy which might arise from the intermixture of any portions of blood is avoided. The fluid expressed is placed between two plates of glass and subjected to the microscope, when the spermatic animalculæ, if present, may at once be detected.—*Edinburgh Medical and Surgical Journal, Oct.* 1839.

Muscular Coats of the Excretory Ducts.—G. H. Myers has published an examination of the muscular layer of the excretory ducts of glands. He used for this purpose a galvanic column of 50 pairs of plates. The gall bladder contracted between the wires to a fourth of its previous diameter ; the ureters also evidently contracted, and the vasa deferentia and vesiculæ seminales, both with galvanic and mechanical stimuli.

In the gall bladder of the sheep and the ureters of the horse there are different layers of reddish-yellow fibres, which in microscopic characters agree exactly with the organic muscular fibres. Their course appears more evidently after they have been boiled. After 24 hours' boiling some gelatine is obtained, probably from the cellular tissue and the remains of the mucous membrane.

The ureters consist of three muscular layers—an external and an internal, of longitudinal fibres, and a layer between them of circular fibres; the external layer arises from the urinary bladder with strong fasciculi, which become finer towards the kidneys. In the middle circular layer, the fibres lie closer together, and have a resemblance to the middle arterial coat, though they are not of an elastic nature. The fasciculi of the inner layer are more connected, and project somewhat internally.

The gall-bladder receives two fasciculi of long intestinal fibres from the intestine, which pass into its outer layer; below these there is a second series of stronger circular fibres which again covers an obliquely placed layer. Lastly, there is the undermost layer, which consists of longitudinal fibres. It is the same in the shark; two muscular fasciculi, ascending from the intestine to the ductus choledochus, divide on the gall-bladder, and part ascend even up the hepatic duct. —*Lond. Med. Gaz. from Müller's Archiv. Jahr.*